

IN THE CLAIMS:

Please cancel claims 25-31 and 34-49.

Please add new claims 50-77 as follows:

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50. An endoscope comprising:
a tube assembly having a proximal end and a distal end;
a first lens fixed within said tube assembly at the distal end thereof;
a second lens disposed within said tube assembly proximate to said first lens, said second lens being movable bi-directionally along the axis of said tube assembly;

a photodetector disposed within said tube assembly proximate to said second lens, with said second lens being located between said first lens and said photodetector;

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a control rod extending parallel to said tube assembly, said rod having a proximal end and a distal end with said distal end coupled to said second lens; and

drive means for moving said rod bi-directionally so as to cause said rod to move said second lens along said axis toward or away from said first lens according to the direction of movement of said rod.

51. An endoscope according to claim 50 wherein said drive means is manually operable.

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52. An endoscope according to claim 50 wherein said drive means includes a reversible electric motor, and further including manually operable switch means for controlling operation of said motor.

53. An endoscope according to claim 50 wherein said photodetector is movable bi-directionally along the axis of said tube assembly, and further comprising:

a second control rod extending parallel to said tube assembly, said second rod having a proximal end and a distal end with said distal end coupled to said photodetector; and

a second drive means for moving said second rod bi-directionally so as to cause said second rod to move said photodetector toward or away from said second lens according to the direction of movement of said second rod.

54. An endoscope according to claim 53 wherein said second drive means is manually operable.

55. An endoscope according to claim 53 wherein said first-mentioned drive means and said second drive means comprise first and second reversible electric motors respectively, and further including first and second switch means for selectively operating said motors so as to move said first second lens and said photodetector toward or away from said first lens.

56. An endoscope according to claim 53 wherein said photodetector is carried by a housing that is slidably disposed in said tube assembly, and further wherein said second rod is attached to said housing.

57. An endoscope according to claim 55 further including a handle coupled to the proximal end of said tube assembly, and further wherein said first and second switch means are mounted to said handle.

58. An endoscope according to claim 50 wherein said tube assembly comprises an inner tube and an outer tube, and further including a plurality of light-transmitting elements disposed between said inner and outer tubes, each of said light-transmitting elements having a first end and a second end, with the second ends thereof terminating at the distal end of said tube assembly.

59. An endoscope according to claim 58 further comprising a hollow handle attached to the proximal end of said tube assembly, and further wherein said light-transmitting elements project out from between said inner and outer tubes into said handle.

60. An endoscope according to claim 59 further including means carried by said handle for injecting light into the proximal ends of said light-transmitting elements, whereby to provide light for illuminating the space in front of said distal end of said tube assembly.

61. An endoscope according to claim 59 further including a flexible fiber cable attached to said handle and coupled to said light-transmitting elements for injecting light into the proximal ends of said light-transmitting elements from a remote light source.

62. An endoscope according to claim 60 further including a light source mounted within said handle and coupled to the proximal ends of said light-transmitting elements.

63. An endoscope comprising:
a tube having a proximal end and a distal end;
a handle, having a cavity region, said handle coupled to the proximal end of said tube;
a first lens disposed in the distal end of said tube;
a photodetector slidably disposed in the distal end of said tube in spaced relation to said first lens;
a first control rod carried by said tube, said first control rod being movable lengthwise relative to said tube, said first control rod having first and second opposite ends with said first end coupled to said photodetector; and
a first drive means carried by said handle and coupled to said second end of said first control rod for moving said rod lengthwise relative to said tube whereby to move said photodetector toward or away from said first lens.

64. An endoscope according to claim 63 wherein said first drive means comprises a reversible electric motor.

65. An endoscope according to claim 64 wherein said second lens is slidable lengthwise in said tube, and further comprising a second control rod carried by said tube, said second control rod being movable lengthwise relative to said tube, said second control rod having first and second opposite ends with said first end coupled to said second lens, and a second drive means carried by said handle and coupled to said second end of said second control rod for moving said second control rod lengthwise of said tube, whereby to move said second lens toward or away from said first lens and thereby adjust the magnification of the image transmitted by said second lens to said photodetector.

66. An endoscope according to claim 65 further comprising:
a photodetector frame slidably disposed in the distal end of said tube, said photodetector being mounted to and carried by said photodetector frame and said second control rod being coupled to said photodetector frame.

67. An endoscope according to claim 65 further comprising a third lens disposed between an aperture of the distal end of said tube and said first lens.

68. An endoscope according to claim 67 further comprising a plurality of fiber optic rods carried by said tube and disposed in surrounding relation to said lenses, each of said fiber optic rods having a first end and a second end with their second ends terminating at the distal end of said tube.

69. An endoscope according to claim 68 further comprising a light - transmitting cable attached to and projecting from said handle for injecting light from an exterior light source into the proximal ends of said fiber optic rods;

70. An endoscope according to claim 68 further comprising a light source within said handle for injecting light into the proximal ends of said fiber optic rods.

71. An endoscope according to claim 65 further wherein said first drive means comprises a first reversible electric motor mounted within said handle and a focus control switch on said handle for controlling operation of said first motor so as to move said photodetector toward and away from said second lens and thereby adjust the focusing of the image transmitted by said second lens to said photodetector.

72. An endoscope according to claim 71 further wherein said second lens is designed to function as a zoom lens, and further wherein said second drive means comprises a second reversible motor mounted within said handle, and further including a zoom control switch on said handle for controlling operation of said second motor so as to move said second lens toward and away from said first lens and thereby adjust the magnification of the image transmitted by said second lens to said photodetector.

73. An endoscope comprising:
a tube having a proximal end and a distal end;
a handle coupled to the proximal end of said tube;
a first bi-directional motor disposed in a cavity in said handle;
a first lens disposed in the distal end of said tube;
a photodetector disposed proximate said first lens in the distal end of said tube, said photodetector being movable lengthwise of said tube toward and away from said first lens;

a first control rod having a first end and a second end with the first end of said first control rod coupled to said photodetector; said control rod being carried by and movable lengthwise of said tube, whereby to move said photodetector toward or away from said first lens;

a first mechanism coupled between the second end of said first control rod and said first bi-directional motor for moving said first control rod lengthwise toward or away from said distal end of said tube;

a second zoom lens disposed in said tube between said first lens and said photodetector; said zoom lens being movable lengthwise of said tube whereby to vary the magnification of the image that it transmits from said first lens to said photodetector;

a second bi-directional motor disposed in a cavity in said handle;
a second control rod having a first end and a second end with the first end of said second control rod coupled to said zoom lens, said second control rod being carried by and movable lengthwise of said tube, whereby to move said zoom lens toward or away from said first lens; and
a second mechanism coupled between the second end of said second control rod and said second bi-directional motor for moving said second control rod lengthwise toward or away from said distal end of said tube.

74. An endoscope according to claim 73 further comprising:
a plurality of fiber optic rods extending lengthwise of and carried by said tube, each of said fiber optic rods having a first end and a second end with the first ends of said fiber optic rods terminating at the distal end of said tube.

75. An endoscope according to claim 74 further comprising means carried by said handle and coupled to the second ends of each of said fiber optic rods for injecting light into said second ends of said fiber optic rods.

76. An endoscope according to claim 75 wherein said last-mentioned means comprises an illumination assembly disposed in a cavity region of said handle.

77. An endoscope according to claim 73 wherein said tube comprises an inner tubular member and an outer tubular member, with said first and second lenses and said photodetector disposed within said inner tubular member, and further including a plurality of optical fibers disposed between and extending lengthwise of said tubular members, said fibers each having a first end and a second end with the said second ends thereof terminating at the distal end of said tube, and means carried by said handle and coupled to said first ends of said fibers for injecting light into said fibers, whereby light is transmitted by said fibers so as to illuminate the region immediately in front of said distal end of said tube.

REMARKS

Submitted herewith is a copy of a Petition To Extend Time that is being filed concurrently. The petition extends the time for response to the Official Action by three months to 17 April 1995.